

**THE  
SHARPER  
IMAGE®**

# Hadrons™ Desktop U.S. Atomic Clock & Weather Station

SN004 Instructions



**Read and save these instructions.**



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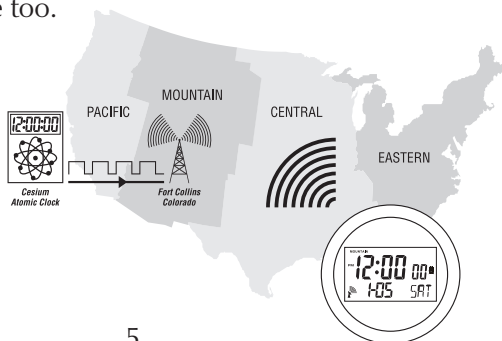
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# What is Atomic Radio Control?

The most precise time keeping device on earth is the atomic clock. It keeps time to the accuracy of better than 1 second for every million years. The atomic clock is a huge piece of scientific equipment and it is so expensive that it is normally found in laboratories and standards institutions, etc. Thanks to the latest technology, the accuracy of the atomic clock is now brought to your home. The NIST (National Institute of Standards and Technology) broadcasts electronically encoded time signals based on an atomic clock from an antenna in Fort Collins, Colorado that covers the continental United States. The signal is picked up by the radio receiver circuit in your clock, then decoded to synchronize the time to split-second precision. The radio signal automatically sets the calendar and daylight saving or standard time too.

**Figure 1:**

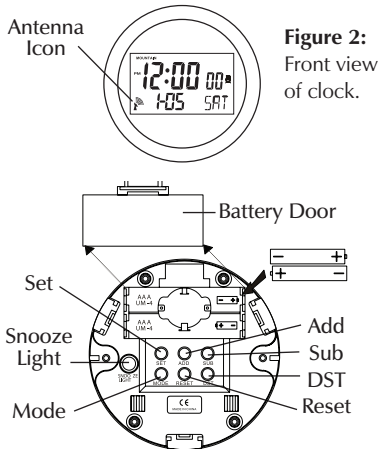
Atomic radio-controlled time-signal transmission and reception.



# What is Atomic Radio Control?

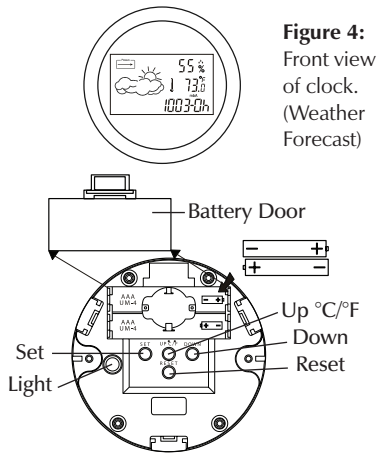
**Note:** The clock is for use in the continental USA only. In Alaska and Hawaii, the radio signal may not be strong enough for synchronization and therefore the clock can only be used as a normal quartz clock that can be set manually.

## Parts Diagram



**Figure 3:** Back view of clock.

**Figure 2:**  
Front view  
of clock.



**Figure 5:** Front view of clock.  
(Weather Forecast)

## Batteries

The clock and the weather station each use 2 AAA (or UM-4) batteries (purchase separately). Insert the batteries, observing proper +/– polarities, as indicated by the diagram in the battery compartment.

### Notes:

- We recommend Alkaline batteries.
- In accordance to the environmental laws in your area, properly dispose of the used batteries.
- If the unit is operating in an unfavorable way or is malfunctioning, remove then reinsert the batteries in the back of the clock. Then press the **RESET** button on the back of the clock.

## Setting the Atomic Time and Date

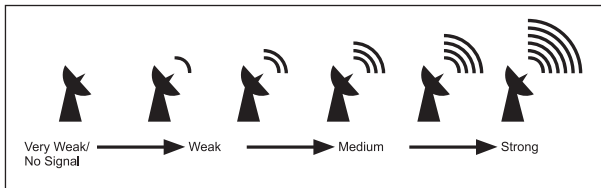
When the receiver circuit is in operation, the antenna icon on the LCD blinks. The bars facing the antenna indicate the strength of the radio signal: no bars mean there is no signal or a very weak signal being received; one bar indicates a weak signal; 5 bars indicates the strongest signal. Use the radio signal strength indicators to find a location where the reception is strong. Do not put the clock on a metal wall. If the clock is too close to electrical appliances, such as a TV, mobile phone or computer, they may cause undesirable signal

## Setting the Atomic Time and Date

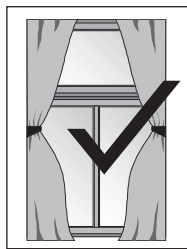
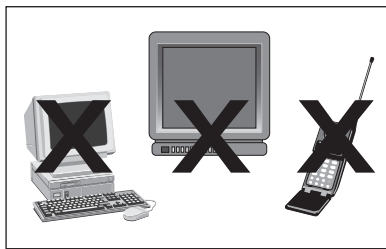
interference. A strong signal is normally found close to the window. In some areas where the signal is poor, you may need to position and rotate the clock until the best signal strength is obtained.



**Figure 6a:** Blinking antenna icon (clock attempting to synchronize).



**Figure 6b:** Synchronization and radio signal strength indication.



**Figure 7:** How to position the clock for the best signal reception.

Once you have found the optimal position, leave the clock still so that it can receive a clear signal. It normally takes 3 to 10 minutes



## Setting the Atomic Time and Date

to synchronize. Once it is successful, the clock displays extremely accurate time and the correct date. A successfully synchronized clock features a non-blinking antenna icon and a radiating beacon. The synchronized clock attempts to refresh itself with the radio time signal at least once a day. If it fails for more than 3 days, the antenna icon disappears. The clock still functions as a quartz clock until it can be refreshed again.

The clock is a radio device and, like a mobile phone or the radio, in certain locations and times of day, it may not pick up a strong enough signal to synchronize. If the clock fails to synchronize in the first attempt, it reattempts at the top of every hour until 12:00 a.m. In most cases, the clock synchronizes overnight as the radio signal is the strongest in the early morning. You can leave the clock to synchronize at a later time or you can set the clock manually. As noted below, a manually set clock still attempts to synchronize itself automatically at the top of every hour.

**Note:** Regarding forced synchronization and halting of synchronization, if you want the clock to attempt synchronization, press and hold the **MODE** button. This activates the synchronization process. If the clock is in synchronization mode, then press and hold **MODE** to halt synchronization.

## Setting the Clock

In normal display mode, press **MODE** button to view the following in this order: Current Date (month, day and year); Current Time; and Daily Alarm Time.

After releasing the **MODE** button, the screen returns to normal display in 10 seconds. If you press and hold the **SET** button for 2 seconds in any mode, the clock enters that particular mode. To adjust settings, press **ADD** or **SUB**.

### Notes:

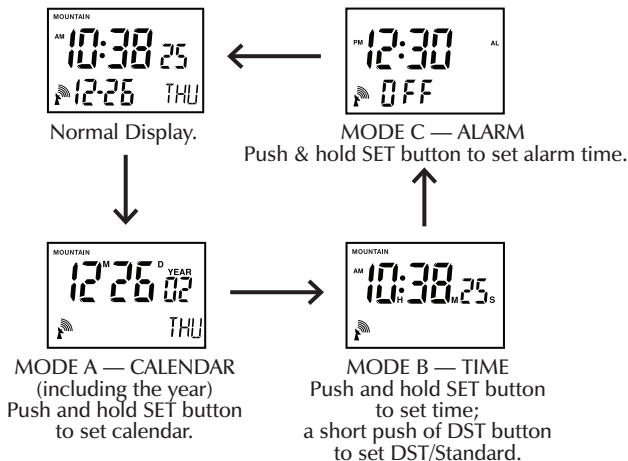
- DST can be set in Normal Display mode by pressing and holding the **DST** button for more than 2 seconds. DST can also be set in Current Time mode by pressing the **DST** button once.
- Once you have manually set the DST or Standard Time, the clock will not set the Daylight Saving Time automatically due to the manual override. To return to default setting, press **RESET**.

# Setting the Clock

## Setting the Zone

The zone can be set in normal display mode or in the Time Set mode. In normal time mode, press and hold the **SET** button. To change the zone, press **ADD** or **SUB** button. To exit, press the **SET** button once again.

## Setting the Current Date





## Setting the Clock

Press the **MODE** button to enter Mode A (Calendar with Year). To enter the Year mode, press and hold the **SET** button for 2 seconds. The last two digits of the year blink. Press **ADD** or **SUB** button to enter correct year, then press the **SET** button to set month and day.

### Setting the Current Time

When in Mode A (Calendar with Year), press the **MODE** button to enter Mode B (Time). The **SET** button functions the same as in the other modes. SET sequence is as follows: Time Zone; Seconds; 12/24-Hour Display; Hour; Minutes. Press **ADD** or **SUB** button to change. After the time is set, press **DST** button once to set Daylight Saving Time.

### Setting the Alarm

When in Mode B (Time), press the **MODE** button to enter Mode C (Alarm). Press and hold the **SET** button to enter Alarm Hour and Minutes settings. Press **ADD** or **SUB** to change. To enter Alarm On/Off setting, press **SET** button once more. When in the Alarm On/Off setting, press **ADD** or **SUB** to set the alarm on or off. When set to ON,  appears; when off,  disappears.

## Setting the Clock

**Note:** If in 12-hour mode, a.m. or p.m. appears. Daily alarm sound can be identified by short, rapid beeps. When the alarm is beeping, you can turn it off by pressing any button, except the **SNOOZE** button, on the back of the clock for 2 seconds. To snooze, press any button located on the back of the unit. Duration is 5 minutes.

### Backlight

To illuminate the LCD on the main clock unit, press the **SNOOZE/LIGHT** button. To illuminate the Weather Station, press the **LIGHT** button on that back of the unit.

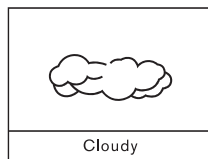
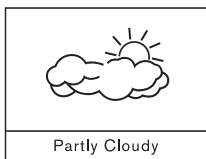
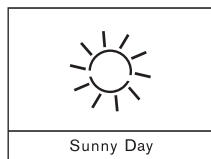
## Weather Station

The Weather Station is capable of detecting atmospheric pressure changes. Once the batteries have been installed, the LCD shows all the segments for a few seconds, then changes to show the humidity and the temperature. The pressure display shows (blank) “---- - 0h.” The weather forecast area is blank. The blinking arrows inside the window at the upper left corner indicate that the pressure is currently being read. Once this instrument successfully receives the pressure data, it displays the barometric pressure reading on the LCD, as well as the corresponding weather forecast icon.

## Weather Station

In order to “predict” the correct weather, you must set the approximate altitude of your location because the atmospheric pressure varies at different altitudes. Press the **SET** button. The barometer changes to the altitude of your location. To adjust the altitude of your location, press **UP** or **DOWN** accordingly. After setting the altitude, press **SET** once to return to normal barometer display.

**Note:** The limits for the altitude settings are from -325 feet below sea level to 6,558 feet above sea level (-99m to 1,999m).



## Weather Station

To determine your altitude, either contact your local library or visit <http://www.worldatlas.com/aatlas/infopage/elvation.htm>. (The Website listed appears only as a helpful reference. The Website, its name and logos remain the sole property of the owners of the Website and of the trademark.)

Based on the collected data, the weather forecast predicts the weather for the upcoming 6 to 8 hours as indicated below:

### Notes:

- In order to provide an accurate weather prediction, the weather forecast station needs to run and collect data for at least 12 hours. The prediction covers the next 6 to 8 hours and may not necessarily reflect the current situation.
- The accuracy of this pressure-based weather forecast station is about 70% to 75%.
- The Sunny icon on the weather forecast station implies clear weather.

### Reading the Barometric Pressure

To show the pressure history of last 6 hours, press **DOWN**. If data is available, the display shows the data with the corresponding hour.

## Weather Station

For example, 1003 -2 on the LCD means the pressure measurement is 1003 mbar) and the -2 means the data was collected 2 hours ago. By comparing the pressure value (mbar), it provides a hint to predict the weather condition. If the pressure value is rising, the weather condition may improve. If the pressure value is not changing, the weather condition may stay at the current condition. If the pressure value is declining, the weather condition may become poor. The pressure trend indicator shows the pressure trend.



Means the pressure is rising.  
The weather conditions may improve.



Means the pressure is not changing.  
The weather may stay at the current condition.



Means the pressure is declining.  
The weather conditions may become poor.

**Note:** The pressure limits on your weather forecast can display a pressure level between 700mbar and 1,050 mbar. The operation pressure of the clock unit is from 970 mbar to 1,030 mbar.



# Weather Station

## Reading the Temperature

To select either °C or °F, press the °C/°F. The weather station can show a temperature between 14°F and 122°F (-10°C and 50°C). If the temperature exceeds the maximum, HI appears on the LCD.

**Note:** The operating temperature range of the clock is 32°F to 122°F (0°C to 50°C). If the indoor temperature is below 32°F (0°C), the LCD may not be viewable.

## Reading the Humidity

If the displayed humidity is less than 39%, the letter "D" appears to indicate "Dry."

If the displayed humidity is between 40% and 70%, and if the temperature is between 68°F and 77°F (20°C and 25°C), the letter "C" appears to indicate "Comfortable."

If the displayed humidity is over 70%, the letter "W" appears to indicate "Wet."

# Weather Station

## Notes:

- Weather instruments take some time to respond to sudden changes in temperature and relative humidity. Placing the clock in a location with free airflow helps the instruments obtain a quicker and more accurate reading.
- When the temperature is at or below 32°F (0°C), the LCD shows --% for humidity.
- The operation humidity is from 15% to 95%.



# Warranty

## What Is Covered

This warranty covers any defects in materials or workmanship, with the exceptions stated below.

## How Long Coverage Lasts

This warranty runs for 90 days from the date of original purchase.

## What Is Not Covered

This warranty does not cover damage caused by misuse or use other than as intended and described in the product instruction manual, or loss or damage to batteries or removable parts.

## What The Sharper Image Will Do

The Sharper Image warrants this product against defects in materials and workmanship. When repair is not practical, The Sharper Image will have the option to replace the defective product with one that is the same or has similar functionality.

## How to Obtain Service

Return the product and receipt, along with a brief explanation of the problem, to:

**T.S.I. - Returns Department**  
**2901-A West 60th Street**  
**Little Rock, AR 72209**

If you have questions please feel free to contact our customer service representatives at 1-800-344-5555 or by email at [care@web.sharperimage.com](mailto:care@web.sharperimage.com).

This warranty gives you specific legal rights, and you may have other legal rights that vary from state to state.

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Actual product may differ slightly from the product described herein.

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